~~determining a posterior covariance matrix $\hat{\Sigma}_p$ of the channels using a FFT matrix W, the previous estimate of the transmitted symbol X_p, a channel convergence matrix Σ^{-1}, and a Gaussian noise variance σ^2 as $\hat{\Sigma}_p = (\mathbf{W}^H \mathbf{X}_p^H \mathbf{X}_p \mathbf{W}/\sigma^2 + \Sigma^{-1})^{-1}$;~~

where determining a posterior means comprises determining ~~a~~ the posterior mean $\hat{\underline{h}}_p$ of a channel impulse response as $\hat{\underline{h}}_p = \hat{\Sigma}_p(\mathbf{W}^H \mathbf{X}_p^H \mathbf{Y}/\sigma^2 + \Sigma^{-1} E\{\underline{h}\})$, where the received symbol is Y, and $E\{\underline{h}\}$ is ~~a~~ the channel impulse response~~;~~

~~determining a channel update coefficients matrix C for recovering the next estimate of the transmitted symbol; and~~

~~applying the coefficient matrix C to the posterior mean $\hat{\underline{h}}_p$, the FFT matrix W, and the received symbol Y according to $\underline{\tilde{X}}_{p+1} = \mathbf{C}^{-1}(\hat{\underline{h}}_p^H \mathbf{W}^H \mathbf{Y})^T$ to optimize the next estimate of the transmitted symbol $\underline{\tilde{X}}_{p+1}$~~.

Regarding claim ~~11~~ 12, in line 4, "symbol transmitted" is replaced by –transmitted NB 5/11/06 symbol–.

Regarding claim 18, the following version replaces all prior versions in their entirety:

18. The system of claim 12 ~~further comprising:~~

~~means for determining a posterior covariance matrix $\hat{\Sigma}_p$ of the channels using the FFT matrix W, the initial estimate of the transmitted symbol X_p, a channel convergence matrix Σ^{-1}, and a Gaussian noise variance σ^2 as $\hat{\Sigma}_p = (\mathbf{W}^H \mathbf{X}_p^H \mathbf{X}_p \mathbf{W}/\sigma^2 + \Sigma^{-1})^{-1}$;~~

where the means for determining a posterior mean comprises means for determining ~~a~~ the posterior mean $\hat{\underline{h}}_p$ of a channel impulse response as $\hat{\underline{h}}_p = \hat{\Sigma}_p(\mathbf{W}^H \mathbf{X}_p^H \mathbf{Y}/\sigma^2 + \Sigma^{-1} E\{\underline{h}\})$, where the received symbol is Y and $E\{\underline{h}\}$ is ~~a~~ the channel impulse response~~;~~